

LETTERS



WHAT TO DO ABOUT ANTIMICROBIAL RESISTANCE

The threat of poor quality antibiotics in increasing antimicrobial resistance

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Antibiotic resistance has multifactorial causes, so the fight against it requires cross sectoral solutions and, as we are reminded in Heymann's editorial,¹ great attention to lessons learnt from the past.

Today, we know that the use of under-dosed or poorly bioavailable malaria drugs contributed to the rise in resistance to traditional malaria drugs.^{2,3} Evidence now shows that the same may apply to poor quality antibiotics,^{4,5} including substandard and falsified products.

An important effort is therefore needed to support drug regulatory authorities in low and middle income countries to enable them to eliminate poor quality antibiotics from the whole supply chain and from the market.⁶

Competing interests: None declared.

- 1 Heymann DL. What to do about antimicrobial resistance. *BMJ* 2016;353:i3087. doi:10.1136/bmj.i3087 pmid:27268994.
- 2 Taberner P, Fernández FM, Green M, Guerin PJ, Newton PN. Mind the gaps—the epidemiology of poor-quality anti-malarials in the malarious world—analysis of the WorldWide Antimalarial Resistance Network database. *Malar J* 2014;13:139. doi:10.1186/1475-2875-13-139 pmid:24712972.
- 3 Nayyar GM, Breman JG, Newton PN, Herrington J. Poor-quality antimalarial drugs in southeast Asia and sub-Saharan Africa. *Lancet Infect Dis* 2012;12:488-96. doi:10.1016/S1473-3099(12)70064-6 pmid:22632187.
- 4 Fadeyi I, Lalani M, Maik N, Van Wyk A, Kaur H. Quality of the antibiotics—amoxicillin and co-trimoxazole from Ghana, Nigeria, and the United Kingdom. *Am J Trop Med Hyg* 2015;92(suppl):87-94. doi:10.4269/ajtmh.14-0539 pmid:25897067.
- 5 Pan H, Luo H, Chen S, Ba-Thein W. Pharmacopoeial quality of antimicrobial drugs in southern China. *Lancet Glob Health* 2016;4:e300-2. doi:10.1016/S2214-109X(16)00049-8 pmid:27102190.
- 6 Ravinetto RM, Boelaert M, Jacobs J, Pouget C, Luyckx C. Poor-quality medical products: time to address substandards, not only counterfeits. *Trop Med Int Health* 2012;17:1412-6. doi:10.1111/j.1365-3156.2012.03076.x pmid:22909082.

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